AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A circulating fluidized bed reactor comprising a reaction chamber **[[(1)]]** connected by an acceleration duct **[[(4)]]** to a centrifugal separator **[[(2)]]** for separating particles from hot gases coming from said reaction chamber **[[(1)]]**, ~~characterized in that~~ wherein at least part of the acceleration duct **[[(4)]]** is inside the top of the reaction chamber **[[(1)]]** and the centrifugal separator **[[(2)]]** has substantially straight vertical walls.

2. (Currently Amended) A fluidized bed reactor according to claim 1, ~~characterized in that~~ wherein all of the acceleration duct **[[(4)]]** is inside the top of the reaction chamber **[[(1)]]**.

3. (Currently Amended) A fluidized bed reactor according to claim 1 ~~or claim 2~~, ~~characterized in that~~ wherein the acceleration duct **[[(4)]]** has an inlet mouth substantially perpendicular to the extrados of the duct**[[(4)]]**.

4. (Currently Amended) A fluidized bed reactor according to claim 1 ~~or claim 2~~, ~~characterized in that~~ wherein the acceleration duct **[[(4)]]** has an inlet mouth substantially parallel to the extrados of the duct**[[(4)]]**.

5. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the centrifugal separator [[(2)]] and the reaction chamber [[(1)]] have a common wall.

6. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the centrifugal separator [[(2)]] and the rear cage [[(3)]] have a common wall.

7. (Currently Amended) A fluidized bed reactor according to claim 5, ~~characterized in that~~ wherein the reaction chamber [[(1)]] and the rear cage [[(3)]] have a common wall[[(lb)]].

8. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the combination of the reaction chamber [[(1)]], the separator [[(2)]] and the rear cage [[(3)]] constitutes a basic module.

9. (Currently Amended) A fluidized bed reactor according to claim 8, ~~characterized in that~~ wherein the reaction chamber [[(1)]] and the separator [[(2)]] have aligned exterior walls.

10. (Currently Amended) A fluidized bed reactor according to claim 8 ~~or claim 9~~, ~~characterized in that~~ wherein the power of the reactor is a function of the number of basic modules used.

11. (Currently Amended) A fluidized bed reactor according to ~~any of claims 8 to 10~~ claim 8, ~~characterized in that~~ wherein two adjacent modules have a common wall.

12. (Currently Amended) A fluidized bed reactor according to claim 11, ~~characterized in that~~ wherein the wall common to two modules and between two separators **[[**(2)**]]** is a partial wall.

13. (Currently Amended) A fluidized bed reactor according to ~~any of claims 8 to 12~~ claim 8, ~~characterized in that~~ wherein the reaction chambers **[[**(1)**]]** of two adjacent modules are combined.

14. (Currently Amended) A fluidized bed reactor according to ~~any of claims 8 to 13~~ claim 8, ~~characterized in that~~ wherein the rear cages **[[**(3)**]]** of two adjacent modules are combined.

15. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the interior wall of the reaction chamber **[[**(1)**]]** includes an inlet deflector **[[**(11)**]]** of the acceleration duct**[[** (4)**]]**.

16. (Currently Amended) A fluidized bed reactor according to ~~any of claims 1 to 15~~ claim 1, ~~characterized in that~~ wherein the walls are tubed.

17. (Currently Amended) A fluidized bed reactor according to claim 16, ~~characterized in that~~ wherein the walls of the acceleration duct [[(4)]] and the separator [[(2)]] and the bottom wall and the top wall of the reaction chamber [[(1)]] are covered with a layer of refractory material.

18. (Currently Amended) A fluidized bed reactor according to claim 16, ~~characterized in that~~ wherein the walls [[(40, 41, 42, 43, 44)]] of the portion of the acceleration duct [[(4)]] inside the reaction chamber use tubes [[(8)]] from the walls of the reaction chamber[[(80)]].

19. (Currently Amended) A fluidized bed reactor according to claim 16, ~~characterized in that~~ wherein the walls [[(40, 41, 42, 43, 44)]] of the portion of the acceleration duct [[(4)]] inside the reaction chamber use tubes [[(8)]] from the walls of the separator[[(2)]].

20. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the walls [[(40, 41, 42, 43, 44)]] of the acceleration duct [[(4)]] consist of tubes [[(8)]] forming a separate circuit.

21. (Currently Amended) A fluidized bed reactor according to claim 16~~ or claim 18~~, ~~characterized in that~~ wherein the walls [[(44a)]] of the portion of the acceleration duct [[(4)]]

between the reaction chamber [[(1)]] and the separator [[(2)]] consist of tubes [[(80)]] from the walls of the reaction chamber and the separator.

22. (Currently Amended) A fluidized bed reactor according to claim 15, ~~characterized in that~~ wherein the deflector [[(11, 45)]] consists of tubes [[(8)]] diverted from the walls of the reaction chamber[[(1)]].

23. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein a deflector is formed by rounding the tubes [[(8)]] of the floor of the duct [[(4)]].

24. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the floor [[(40, 42, 43)]] of the duct [[(4)]] is inclined toward the separator[[(2)]].

25. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the floor [[(40, 42, 43)]] of the duct [[(4)]] is inclined toward the extrados of the duct[[(4)]].

26. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the section of the exterior and interior walls [[(41)]] of the duct [[(4)]] changes more than once.

27. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the gases are evacuated from the centrifugal separator [[(2)]] via a vertical duct [[(23)]] situated inside said separator [[(2)]] and which directs the gases toward the bottom of the separator[[(2)]].

28. (Currently Amended) A fluidized bed reactor according to claim 27, ~~characterized in that~~ wherein the duct [[(23)]] is placed in the middle of the separator[[(2)]].

29. (Currently Amended) A fluidized bed reactor according to claim 27, ~~characterized in that~~ wherein a deflector is placed at the top of the separator[[(2)]].

30. (Currently Amended) A fluidized bed reactor according to claim 28, ~~characterized in that~~ wherein the deflector has a section at least equal to that of the flue gas evacuation duct [[(23)]], its position is substantially aligned with that of the evacuation duct [[(23)]], and its height is less than that of the constant section portion of the separator[[(2)]].

31. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the separator [[(2)]] is carried by at least one of the evacuation ducts [[(5, 23)]] of the separator[[(2)]].

32. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the rear cage [[(3)]] is horizontal.

33. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the rear cage [[(3)]] is situated under the separator[[(2)]].

34. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein the rear cage [[(3)]] is placed on concrete slabs[[(9)]].

35. (Currently Amended) A fluidized bed reactor according to ~~any preceding~~ claim 1, ~~characterized in that~~ wherein a secondary separator is placed between the main separator [[(2)]] and the rear cage[[(3)]].